

## Claims

---

What is Claimed Is:

- 5 1. A flavonoid ester with a  $\omega$ -substituted C6 to C22 fatty acid, wherein the  $\omega$ -substituted C6 to C22 fatty acid is a saturated or unsaturated, linear or branched aliphatic C6 to C22 - carboxylic acid having one or more polar groups.
- 10 2. The flavonoid ester according to Claim 1, wherein the flavonoid is an aglycone or the glycosylated form of a polyphenol selected from the group consisting of a flavone, a flavonol, a flavanone, a flavanol, a flavanolol, an isoflavone, an anthocyanin, a proanthocyanidin, a chalcone, an aurone and a hydroxycoumarin.
- 15 3. The flavonoid ester according to Claim 1, wherein the polar group is on the terminal carbon atom of the C6 to C22 – carboxylic acid.
- 20 4. The flavonoid ester according to Claim 1, wherein the polar group of the  $\omega$ -substituted C6 to C22 fatty acid is a derivative of a carboxylic acid selected from the group consisting of a carboxylic acid (COOH); an amide (CONR'<sub>2</sub> or CONR'<sub>3</sub><sup>+</sup>S<sup>-</sup>) wherein R' is a hydrogen atom, a saturated or unsaturated, linear or branched alkyl C1-C6 radical, or an aryl, aralkyl or aralkylene radical and S<sup>-</sup> is a counter ion; a COHal where in Hal is a halogen atom; and a COSH.
- 25 5. The flavonoid ester according to Claim 1, wherein the  $\omega$ -substituted C6 to C22 fatty acid is dicarboxylic.
- 30 6. The flavonoid ester according to Claim 5, wherein the  $\omega$ -substituted C6 to C22 fatty acid is selected from the group consisting of octanedioic acid, azelaic acid, decandioic acid, dodecandioic acid, hexadecandioic acid and octadecandioic acid.
- 35 7. The flavonoid ester according to Claim 1, wherein the  $\omega$ -substituted C6 to C22 fatty acid is a dicarboxylic acid linked to a flavonoid by an ester bond on one of its carboxylic groups (HOOC-X-C(=O)-O-flavonoid), wherein X is a saturated or unsaturated, linear or branched alkyl radical (C<sub>4</sub> – C<sub>20</sub>).

8. The flavonoid ester according to Claim 1, wherein the  $\omega$ -substituted C6 to C22 fatty acid is 11-mercaptoundecanoic acid or thioctic acid.
9. The flavonoid ester according to Claim 1, wherein the polar group of the  $\omega$ -substituted C6 to C22 fatty acid is a thiol or an alkylthioalkyl group.
10. The flavonoid ester according to Claim 1, wherein the  $\omega$ -substituted C6 to C22 fatty acid has two adjacent polar groups selected from the group consisting of diol, dithiol, 1,2-dithiane, 1,3-dithiane and epoxide.
11. A nutritional or cosmetic or pharmaceutical composition containing a flavonoid ester according to Claim 1.
12. A nutritional or cosmetic or pharmaceutical composition comprising liposomes or microcapsules containing a flavonoid ester according to Claim 1.
13. A nutritional or cosmetic or pharmaceutical composition according to Claim 11, containing 0.0001 to 10 wt % of a flavonoid ester.
14. The flavonoid ester according to Claim 1 incorporated into a cosmetic preparation as an agent to protect skin and scalp against damage caused by UV radiation, mitochondrial or nuclear DNA damage caused by UV radiation, and aging, or as an anti-inflammatory and/or soothing and relieving agent.
15. The flavonoid ester according to Claim 1 incorporated into a preparation for stimulating the metabolism and the immune defense of human skin, including defense against oxidative or environmental stress or pollutants, for a dermatological anti-inflammatory care preparation, or for a draining, veinotonic or slimming preparation.
16. The flavonoid ester according to Claim 14, wherein the ester is used in the preparation in quantities of 0.0001 to 10 wt % based on the final composition.
17. The flavonoid ester according to Claim 14, wherein the ester is present in the preparation in the form of liposomes or microcapsules.

18. The flavonoid ester according to Claim 15, wherein the ester is used in the preparation in quantities of 0.0001 to 10 wt % based on the final composition.
19. The flavonoid ester according to Claim 15, wherein the ester is present in  
5 the preparation in the form of liposomes or microcapsules.